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ABSTRACT

In a study of the mainstreaming practices of a large urban school district, schedules of 844 mildly handicapped elementary students were examined. Schedule appropriateness was defined by three factors: assignments of handicapped students to a fixed group of regular students, to a grade-appropriate group, and for the full sequence of scheduled instruction. In addition, school variables (such as total student enrollment and enrollment of handicapped students by grade) were analyzed. On the average, handicapped students were scheduled to spend very little time in regular education classes, with only 3% to 7% of students assigned to regular academic classes. More than one-third of the handicapped students were assigned to classes below their grade level. Further, only 39% of the handicapped students had assignments to all of their regular education classes that were for the full sequence of sceduled instruction. The only school variable found to be significantly related to appropriate schedules was total school enrollment, which was positively correlated with assignments for full instructional sequence. (CL)]

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Evaluating Mainstreaming in Urban Elementary Schools Through an Analysis of Students' Weekly Schedules

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Evaluating Mainstreaming in Urban Elementary Schools Through An Analysis of Students' Weekly Schedules

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ABSTRACT

This paper describes a comprehensive study whose purpose was to help a large urban school district evaluate and improve its mainstreaming practices. Schedules of 844 mildly handicapped elementary school students were analyzed to describe the degree of appropriateness of each school's mainstreaming practices. Then, school variables were investigated in relation to appropriate scheduling.

Data analysis revealed that very few students had appropriate mainstreaming schedules but that "good" scheduling was found in all kinds of schools. The schedule analysis procedures used here could provide a model for ensuring that handicapped students have a sensible educational experience in regular classes.

Objective

Since 1975, Public Law 94-142, The Education of All Handicapped Children Act, has mandated a free, appropriate, public education in the least restrictive environment for all handicapped students. Most school districts have responded to the new responsibilities stipulated in this law by extending the opportunities for handicapped children, especially those who are mildly to moderately handicapped, to receive some portion of their education with non-handicapped peers. This practice, commonly referred to as "mainstreaming" has received considerable attention in research and practitioner literature in the last several years. Some studies have focused on procedural issues and the decision-making process (Bullard, 1982; Cruickshank, 1977; Hundert, 1982). Others have investigated the impact of special education and regular class placements on student outcomes such as social adjustment or academic achievement (Macy & Carter, 1978; Madden & Slavin, 1982; Semmel, Gottlieb, & Robinson, 1979). What seem to be lacking in the literature are descriptions of evaluation processes undertaken by school districts to improve current mainstreaming practices. This paper describes such a process carried out by the faculty and staff of the Special Education Department of an urban university in collaboration with the Division for Exceptional Children of the surrounding urban school district. The project was not a summative evaluation of mainstreaming to

determine if it was useful but a formative evaluation to uncover ways in which current school district practices could be improved.

The approach taken was to document the mainstreaming experiences of the handicapped students through an analysis of students' weekly schedules to regular education classes. This approach derived from a commitment to the concept of "opportunity" as a critical variable in achievement. As demonstrated by Cooley and Leinhardt (1980), Carroll (1963), Bloom (1974), and others, learning is more likely to take place if students are given opportunities to engage in learning-specific tasks. Whatever the goal of the learning experience, the more time students spend at it the more likely they are to achieve the goal. Thus, if handicapped students are to learn anything from their experiences in regular classes, they must first be scheduled for the instruction that contributes to that learning. If they are to engage in positive social interactions with non-handicapped peers, they must first be scheduled for contact with these peers on a regular basis.

This investigation focused on three components of mainstreaming: (1) the amount of time that the handicapped students were assigned to regular classes; (2) the appropriateness of the handicapped student's schedule to regular classes; and (3) school variables that influenced scheduling practices in the mainstreaming of handicapped students.

Procedures

The setting for this study was an urban public school district which served 41,885 students in grades K-12 in the 1982-83 school year. Of these students, 14,732 attended the city's 15 high schools, 9,528 attended the 16 middle schools, and 17,595 attended the 56 elementary schools in the district. Approximately 6% of the district's school-age population was served in classes for handicapped students who had been labeled socially and emotionally disturbed (SED), educable mentally retarded (EMR), or learning disabled (LD). In 38 of the district's elementary schools there were self-contained classrooms that served students labeled in one of these categories. Data were collected on 844 students in 71 classrooms in these 38 elementary schools. Two kinds of data were collected for this study: schedule data and school data.

Data Pertaining to Student Schedules

The first step in the compilation of schedule data was to obtain specific schedule information from each school which included a copy of each handicapped student's schedule for regular classes, a copy of the teaching schedule of each regular education teacher to whom handicapped students were assigned, and a copy of the master schedule of the entire school population. A Schedule Summary Form was designed for recording and organizing these data so that they could be used to analyze the schedules of handicapped students. For convenience

the Summary Form was used to record information by classroom. An example of this form is provided in Figure 1.

As Figure 1 illustrates, the school code and categorical designation for the class of students were recorded at the top of the form. In the first column was a list of the handicapped students assigned to the class and a grade designation for each student. Then, each handicapped student's schedule to regular classes was reviewed and the regular education classes to which he/she was assigned were listed across the top of the Schedule Summary. For each regular class subject it was noted how often the student was scheduled to attend, and what regular education group he joined (by homeroom). To complete the Schedule Summary Form the teaching schedules of the regular education receiving teachers were reviewed. These teaching schedules showed the grade level of the regular group of students whom the handicapped students joined and the number of periods for which the regular class was scheduled for instruction for the particular subject. This information was then verified with the school's master schedule and recorded on the Schedule Summary. Every handicapped student's assignment to regular classes was organized and recorded in this manner. These Schedule Summary Forms became the source for calculating the amount of time for which handicapped students were scheduled to regular classes and appropriateness of the schedules.

School 03

Program SED

Date 3/22/83

Data Collecter J.S.

		ART			MUSIC			PE			LIB					
	GR	How Often	With What Group (HR-GR)	# of Periods Assigned	How Often	With What Group (HR-GR)	# of Periods Assigned	How Often	With What Group (HR-GR)	# of Periods Assigned	How Often	With What Group (HR-GR)	# of Periods Assigned	How Often	With What Group (HR-GR)	# of Periods Assigned
1. B.B.	2	1	C4-2	1	2	C4-2	2	1	C4-2	2	1	C4-2	2			
2. W.D.	5	2	B3-5	2	2	B3-5	2	2	B3-5	2	1	B3-5	1			
3. R.D.	5	1	B3-5	2	2	B3-5	2	2	B3-5	2	1	B3-5	1			
4. S.H.	5	2	B6-5	2	2	B6-5	2	2	B6-5	2	1	B6-5	1			
5. L.H.	4	2	A1-4	2	1	A1-4	2	3	A1-4	3						
6. B.J.	3	1	A6-3	1	1	A6-3	2	1	C4-2	2						
7. J.M.	3	1	A4-3	1	2	A4-3	2	2	A4-3	2	2	A4-3	2			
8. R.M.	5	1 1	B4-5 B5-5	2 2	1	B4-5	2	2	B4-5	2	1	B4-5	1			
9. J.N.	4	2	A1-4	2	2	A2-4	2	2	A2-4	2	1	A2-4	1			
10. S.P.	3	1	A5-3	1	1	C1-3	2	1 1	A4-3 C1-3	2 2	2	A5-3	2			
11. D.R.	5	2	B5-5	2	2	B5-5	2	3	B5-5	3	1	B5-5	1			
12. R.R.	5	2	B6-5	2	2	B6-5	2	2	B5-5	3	1	B6-6	1			
13. B.A.	3	1	A6-3	1	1	A3-3	2	1	C1-3	3						

Figure 1. Schedule Summary Form

The amount of time for which the handicapped students were assigned to regular classes was determined by counting the number of periods per 40 period week the students were assigned to each regular class subject. Schedule appropriateness was defined by three factors: (1) the assignments of handicapped students to regular classes were to a grade-appropriate group; (2) the assignments were to a fixed group of regular students, and (3) the assignments were for the full sequence of scheduled instruction. For each of these three measures of appropriateness a count was made of the number of handicapped students whose assignments to regular classes were "appropriate" and that number was divided by the total number of mainstreamed handicapped students. These ratios were derived for each elementary school in the study as well as for the total handicapped population across the 38 elementary schools.

School Data

As already noted, one objective of this study was to understand if there were school variables that were related to the appropriateness of handicapped students' schedules to regular education classes. A record was made, by school, of several school variables: the total student enrollment, the enrollment of handicapped students by grade, the regular education class size by grade, the number of periods allotted for special subject teachers, whether special education were assigned preparation periods, the number of handicapped students

for whom the length of the school day was altered, and whether the school had an overload of handicapped students.

Some specific calculations were necessary to determine if there were an "overload of handicapped students" in a school. Spaces available in regular classes for handicapped students were determined by stipulations in the contract between the district's school board and the local teacher's organization (Collective Bargaining Agreement, 198_) which governed many of the administrative practices in this district. This contract provided that a regular education class could include no more than six handicapped students at a time (p. 17); moreover, overall class size for regular education teachers at the elementary level was not to exceed 25 pupils for primary grades and 28 pupils for intermediate grades (p. 15) for each school. Calculations made to determine whether the number of handicapped students assigned to the school exceeded the space available utilized a recordkeeping form like that in Figure 2.

Once these school data were collected and recorded, a correlation matrix was constructed of the school variables and the measure of appropriate scheduling, to determine the relationships between them.

A second means of obtaining school information was to interview a 20 percent random sample of elementary school principals, and to ask them what school factors influenced the scheduling of handicapped students to regular classes in their buildings. Verbatim responses

School 04

Mainstream Enrollment

Grade	Room	Class Size	Maximum Class Size	Seats Available	Total Seats	# Spec. Ed. Students	Seats Available
5	210	30	28	0			
5	217	30	28		0	13	-13
5			28				
5			28				
4	202	20	28	6			
4	203	19	28	6	18	4	+14
4	207	20	28	6			
4			28				
3	204	21	28	6			
3	205	22	28	6	18	7	+11
3	206	21	28	6			
3			28				
2			25				
2			25				
2			25				
2			25				
1			25				
1			25				
1			25				
1			25				

Excess Spec. Ed. Students Yes x

No

Figure 2. Student Overload

of the principals to each question were noted and the major themes and patterns among the principals' responses were summarized.

RESULTS

This study was organized to determine three things: the time for which the handicapped students were scheduled to regular classes, the appropriateness of the schedules, and influences on scheduling practices throughout the district.

On the average, the handicapped students in this study were scheduled to spend very little time in regular education classes, only 5.8 periods of a 40 period week. This represents 14.5 percent of the handicapped students' scheduled time, leaving 85.5 percent of their scheduled time spent only with handicapped students. The regular education subjects to which handicapped students were assigned most frequently were the special subject classes (that is, art, music, physical education, and library). The percent of handicapped students assigned to these special subjects ranged from 56 percent to 73 percent. Thirty-three percent of the handicapped students were never assigned to a regular education art class and 44 percent were never scheduled to a regular education library class.

In the academic subjects (reading, English, math, social studies, and science) the percent of students assigned to regular classes

ranged from three to seven percent. This means that over 90 percent of the mildly handicapped students in this school were never assigned to regular education academic classes. Table 1 provides a summary of the proportion of handicapped students scheduled to attend each regular education subject.

Appropriateness of mainstreaming was addressed through an analysis of the assignments of the handicapped students to regular classes. One measure of appropriateness was whether the handicapped students were assigned to regular classes with grade-appropriate regular students. There were 62 percent of the handicapped students whose assignments to regular education classes were grade-appropriate, leaving more than one-third of the handicapped students assigned to lower grade regular classes.

The assignment of handicapped students to regular classes with a fixed group of regular students was another measure of appropriate scheduling. Assignments with a "fixed group" meant that for every period of instruction in regular education classes, the handicapped student was assigned to be with the same group of non-handicapped students. Fifty-five percent of the handicapped students in this study were scheduled with a fixed group. Conversely, nearly half the handicapped students were scheduled to join two or more different groups of regular students each week.

The third measure of appropriate scheduling involved a

Table 1

Proportion of Handicapped Elementary Students Scheduled for Instruction in Regular Classes

SPECIAL SUBJECTS

	Art	Music	Phys. Ed.	Library
SED (N = 143)	.64 (91)	.69 (98)	.56 (80)	.45 (64)
EMR (N = 229)	.68 (156)	.73 (167)	.76 (175)	.58 (132)
LD (N = 472)	.67 (316)	.75 (352)	.81 (381)	.58 (276)

ACADEMIC SUBJECTS

	Rdg.	Eng.	Math	Soc.St.	Sci.
SED (N = 143)	.11 (16)	.08 (11)	.08 (12)	.01 (1)	.12 (17)
EMR (N = 229)	.004 (1)	.03 (7)	.03 (3)	.004 (1)	.02 (5)
LD (N = 472)	.06 (27)	.06 (30)	.09 (43)	.05 (23)	.09 (41)

determination of the percent of handicapped students whose assignment to subjects in regular classes included the full sequence of scheduled instruction for each subject. For example, if music instruction were available to regular fourth graders for three periods a week, and a handicapped fourth grader was also assigned to each of those three periods of music instruction, the handicapped student would be counted as having the full instructional sequence for regular music class. This scheduling factor seemed to be the most difficult to accomplish. Overall only 39 percent of the handicapped students had assignments to all of their regular education classes that were for the full sequence of scheduled instruction. This meant that over 60 percent of the students were scheduled to only a segment of instruction in some of their regular education subjects.

Another component of this study was to determine what factors influenced the scheduling of handicapped students to regular education classes. When correlations were calculated between school variables and measures of appropriate schedules, there was only one significant relationship: total school enrollment was positively correlated with assignments for full instructional sequence. In larger schools, handicapped students were more likely to be assigned to regular classes for the full sequence of scheduled instruction. Otherwise, none of the school variables were related significantly to the schedule variables.

Another means of obtaining information about the influences on scheduling was to talk directly with school personnel responsible for the schedules. Interviews were conducted with a random 20 percent sample (N=8) of principals of the schools under study, to obtain their perspective about mainstreaming and scheduling. Each principal was asked to describe his/her definition of mainstreaming, and to identify the factors that influenced the scheduling of handicapped students to regular classes in his/her building.

There were some dominant themes among the interview responses. Every principal described mainstreaming as instruction of handicapped students with regular students in regular classes. All principals reported that a student's readiness influenced whether he/she was assigned to regular academic classes. Both academic and behavioral readiness were mentioned but the principals believed that behavior control was the more important variable. The principals all reported that the small amount of academic mainstreaming reflected a lack of student readiness. However, the assignments of handicapped students to regular special subject classes allowed the principals to provide preparation periods for special education teachers.

Seven of the eight principals reported enrollment-related issues as constraints to scheduling handicapped students to regular classes. These issues were interrelated and included: (a) the limit on the number of handicapped students who could be place in a regular class

in any one period, (b) the maximum class size for regular education classes, and (c) the overload of handicapped students of a particular grade level assigned to a school by the central administration. These seven principals reported that, given the conditions of their schools, they could not develop "appropriate" schedules for the handicapped elementary students without violating the stipulations of the Collective Bargaining Agreement (1980).

Discussion

Prior to this study, scheduling as a variable in the mainstreaming process has not received sufficient attention. The findings of this study indicate that a substantial proportion of the handicapped elementary student population in one urban school district had schedules that were characterized by assignments to regular classes that were not grade-appropriate; assignments with more than one group of regular education students, and assignments for only some portion of a sequence of instruction in the regular class setting. It is possible that these findings are unique to this district with its own particular administrative policies. A replication of the study in similar districts and in contrasting districts would clarify whether there is any general use for the findings, beyond this district. What the study does provide is a framework for describing and evaluating some components of mainstreaming.

For project staff and administrators of the district under study, the current analysis was useful in revealing the complexities of scheduling handicapped students in and out of regular classrooms. The study provided a data base which indicated clearly the need to make mainstreaming of handicapped students more sensible for both students and teachers. It uncovered the need for a district-wide clarification of the purpose of any mainstreaming (e.g., to provide preparation periods for teachers or instructionally and socially appropriate experiences for students). It prompted the drafting of preliminary guidelines for principals on the integration of handicapped students into the mainstream (Figure 3). It also provided a structure within which principals could examine the mainstreaming experiences being offered students in their schools.

The study should also prompt a reexamination of the evaluation literature on mainstreaming. Many others (e.g., Madden & Slavin, 1982; Semmel, Gottlieb, & Robinson, 1979) have noted the lack of clear descriptions of the educational programs and settings being compared in efficacy research on mainstreaming. In the write-up of most such studies the investigators do not address the specific conditions of mainstreaming; the self-contained special education placements especially are not described fully. This lack of clarity and specificity as to the <u>conditions</u> of the mainstreaming that students are experiencing renders much of the efficacy research of

Preferred Mainstreaming Practices

1. Every effort should be made to permit exceptional students to experience some portion of their education in the mainstream in classes with non-handicapped peers. It is most likely that these experiences will take place in the non-academic subjects (art, music, physical education) since exceptional students tend to have particular difficulty in acquisition of academic skills. The goal of the mainstream experience will usually be to have the exceptional child acquire the knowledge and skills presented by the regular education teachers. Sometimes, however, the goal of the mainstreaming will simply be to have the exceptional student experience social interactions with non-handicapped peers.

2. The purpose of assigning exceptional students to mainstream subjects is not to create a preparation period for the special education teacher. While the outcome of mainstreaming decisions may be an empty special education classroom and an opportunity for a prep, the decisions must be based on the appropriateness of the assignment for individual students.

3. When an exceptional student is assigned to instruction in the mainstream, that student should be scheduled to join the regular class for every instructional period in that subject received by those students. This will ensure instructional continuity for the exceptional student and for the receiving teacher, and facilitate social interactions among students.

4. If an exceptional student is assigned to more than one subject in the mainstream, he/she should join the same mainstream group each time, whenever possible. This mainstream group should be an age-appropriate peer group for the exceptional student. This practice will facilitate peer interactions and social development of the exceptional student since he/she will not have to learn to respond to too many new peers.

5. Each school may establish its own procedures for arriving at a mainstreaming schedule for the exceptional students in that building. The Division for Exceptional Children is available to assist administrators and school personnel in developing their own procedures.

Figure 3 Preliminary Guidelines for Assignment of Elementary EMR, SED, and LD Students to Regular Classes for Specific Subjects.

questionable use (Jones, Gottlieb, Guskin, & Yoshida, 1978). Semmel, Gottlieb, and Robinson (1979) provided a succinct commentary on this issue:

> We speculate that the failure of investigators to detail the nature of treatment differences between mainstreamed and non-mainstreamed settings reflect a lack of conceptualization about what mainstreaming is or should be. (p. 27)

The current study provides this conceptualization, and the procedures used should be useful as a prototype for treatment descriptions in other evaluation research. Such descriptions would address the grade-appropriateness of the placements and the number of different peer groups handicapped students are scheduled to join each week. These two features would be of particular relevance in social acceptance research. Further, achievement studies cannot be fully appreciated unless the conditions that characterized the child's exposure to instruction in regular classrooms are adequately described (Guerin & Szatlocky, 1976; Jones, Gottlieb, Guskin, & Yoshida, 1978; Semmel, Gottlieb, & Robinson, 1979). A useful feature of any treatment description would be the extent to which the handicapped students are scheduled to receive the full instructional sequence in the subject matter. In light of the current study, conclusions drawn about mainstreaming in the absence of such clear statements about how "appropriate" the scheduling was would be of little value.

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